

plasmic strands connecting the contracted brown plasmic bodies as shown in the accompanying cut. To make a permanent mount, it will be necessary to use some stain for the plasmic bodies and their connecting strands; otherwise the strands gradually become so transparent in the glycerine as to be almost invisible. The ease of demonstration in case of the buckeye, as compared with other dicotyledons previously used, depends upon the fact that the plasmic protuberances do not break up into delicate fibrils on entering the walls. This demonstration was made by Mr. Evans, my assistant, and the sketch by Mr. Seaton, a special student.—JOHN M. COULTER, *Botanical Laboratory, Wabash College.*

Monotropa uniflora as a subject for demonstrating the embryo-sac.—In the "Botanisches Practicum,"¹ Strasburger figures the embryo-sac of *Monotropa Hypopitys* as the most favorable plant known to him for its study in the living state.

I have found *M. uniflora* to be even better suited to this purpose owing to the greater size of the ovules and embryo-sac, the latter being just about twice as long as that of the former species, and showing quite as clearly all the details of its structure.

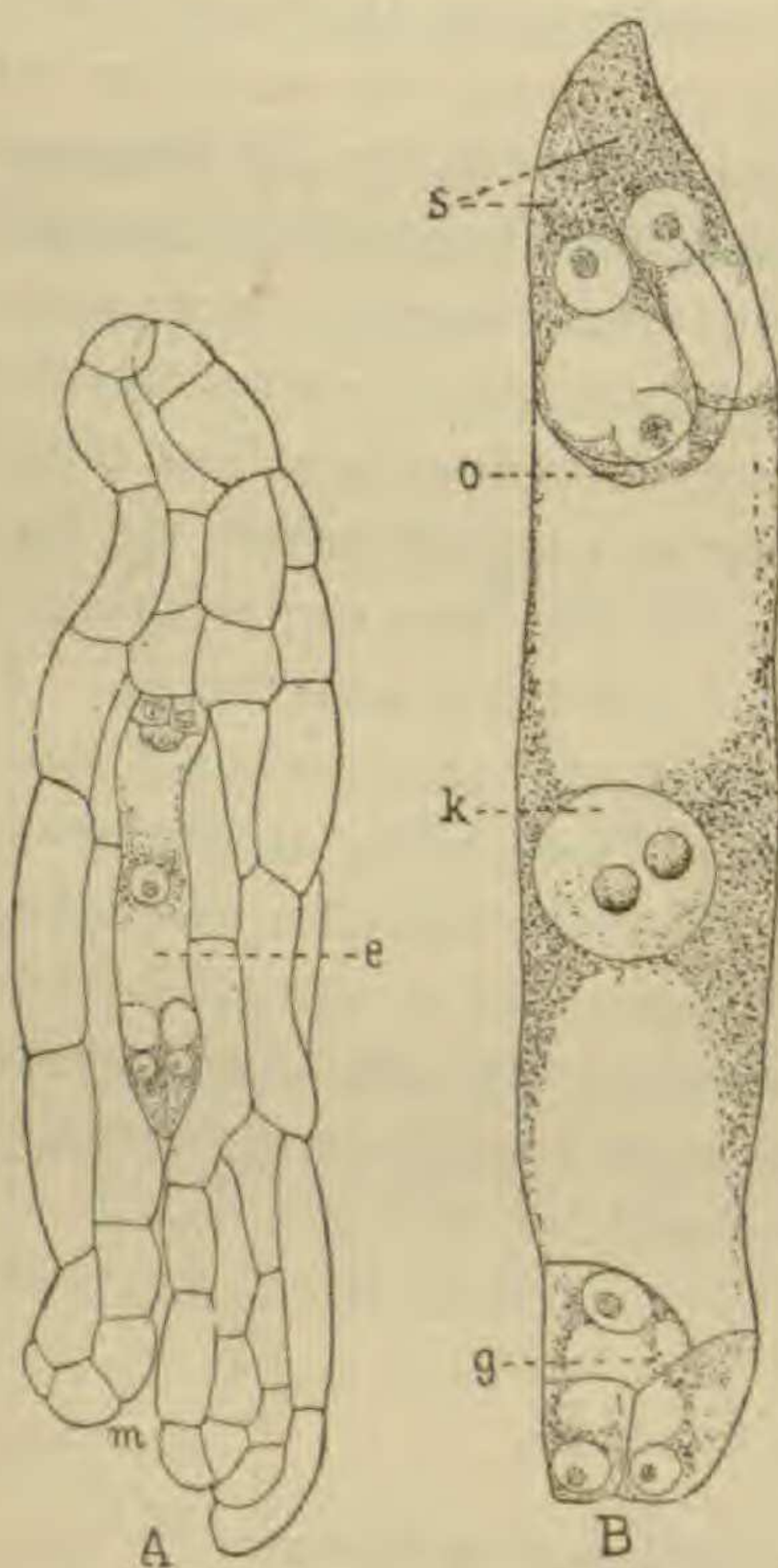
It is only necessary to strip away a little piece of the placenta with the adherent ovules and mount in water, or, better still, a weak (about 3 per cent.) sugar solution. In the latter fluid the ovules remain unchanged for several hours, and may be studied at leisure.

The embryo-sac is covered with but two layers or cells, and these are perfectly colorless, so as not to interfere in the slightest with the view of the embryo-sac.

M. uniflora is not at all a rare plant and may usually be had throughout the summer. The specimen from which the accompanying figures were made was collected at Bloomington, Sept. 24.

The figures are from camera drawings and will give a good idea of the structure

of the ovule and embryo-sac.—DOUGLAS H. CAMPBELL, *Bloomington, Ind.*



A. Ovule of *Monotropa uniflora* in optical section, X about 100: *m*, micropyle; *e*, embryo sac. B. The embryo-sac of a similar ovule, X about 300: *s*, synergidæ; *o*, oosphere; *k*, endosperm nucleus (the two endosperm nuclei have united, but their nuclei are still distinct); *g*, antipodal cells.

¹ Hillhouse's translation, p. 331.